

Date: Thursday, 3/2/2006 3:08:06 PM  
 User: Kim Johnston

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : BRACKET ASSEMBLY
<b>Job Number</b> : 26038	
<b>Estimate Number</b> : 10279	
<b>P.O. Number</b> : N/A	<b>Part Number</b> : D3121143
<b>This Issue</b> : 3/2/2006 <b>S.O. No.</b> : N/A	<b>Drawing Number</b> : D3121 REV C2
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : N/A <b>Type</b> : MACHINED PARTS	<b>Drawing Revision</b> : C2
<b>Previous Run</b> : 25556B	<b>Material</b> : N/A
<b>Written By</b> : SEE COMMENT BELOW	<b>Due Date</b> : 3/26/2006 <b>Qty:</b> 6 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : <u>                    </u>	
<b>Comment</b> : Est Rev: Pick: A 04.02.18 New issue KJ/DS	

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
----------------	------------------------------	----------------------

1.0	M174B1000X02000	17-4 SS Bar
-----	-----------------	-------------



**Comment:** Qty.: 0.3864 f(s)/Unit Total : 2.3184 f(s)  
 Material: 17-4 SS Bar per AMS 5604/5643  
 (M17-4-B1.000x02.000)  
 Identify for D3121-113  
 Batch: M19712

J.L 06-03-14

G

2.0	BAND SAW	BAND SAW
-----	----------	----------



**Comment:** BAND SAW  
 Cut blanks: (1.000" x 2.000") 4.425" long

J.L 06-03-15

G

3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
-----	-------	--------------------------------



**Comment:** HAAS CNC VERTICAL MACHINING #1

1-Machine D3121-113 as per Folio FA330 and Dwg D3121  
 Identify as D3121-113

2-Deburr

3-Scribe batch number

J.L 06-03-15

G

4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--



**Comment:** INSPECT PARTS AS THEY COME OFF MACHINE

J.L 06-03-15

G

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 3/2/2006 3:08:06 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BRACKET ASSEMBLY

Job Number: 26038

Part Number: D3121143

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC8

SECOND CHECK



Comment: SECOND CHECK

M8 06/03/15 6

6.0

D312121

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 12.0000 Each(s)

Pick:

Qty Part Number Description Batch

2 D3121-21 Bolt B25560

J.L 06.03.15

7.0

D3121241

Bearing Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 12.0000 Each(s)

Pick:

Qty Part Number Description Batch

2 D3121-241 Bearing Ass B25297

J.L 06.03.15

8.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Assemble D3121-143 as per Dwg D3121.

J.L 06.03.15 6

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

M8 06/03/15 6

10.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 408

AR 06/03/16 6

11.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06/03/17

Job Completion



U 06.03.17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: LD Date: 26/03/17  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries


<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>
<b>Description:</b> Bracket		<b>Part Number:</b> D3121-113
<b>Inspection Dwg:</b> D3121	<b>Rev:</b> C2	<b>Page 1 of 2</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.080	+/-0.010	.080	✓			
0.300	+/-0.010	.303	✓			
R0.375	+/-0.010	.375	✓			
1.54	+/-0.030	1.541	✓			
0.350	+/-0.010	.341	✓			
R0.250	+/-0.010	.250	✓			
1.800	+/-0.030	1.803	✓			
Ø0.392	+0.002/-0.000	.3925	✓			
Ø0.201	+0.005/-0.000	.202	✓			
0.100	+/-0.010	.098	✓			
2.540	+/-0.010	2.541	✓			
1.590	+/-0.010	1.591	✓			
0.160	+/-0.010	.161	✓			
0.400	+/-0.010	.391	✓			
1.220	+/-0.010	1.221	✓			
1.600	+/-0.010	1.603	✓			
3.80	+/-0.030	3.805	✓			
1.800	+/-0.010	1.803	✓			
R0.500	+/-0.010	.500	✓			
0.130	+/-0.010	.138	✓			
3.41	+/-0.030	3.405	✓			
3.65	+/-0.030	3.641	✓			
2.24	+/-0.030	2.245	✓			
45°	+/-0.1°	45°	✓			
R0.250	+/-0.010	.250	✓			
3.97	+/-0.030	3.973	✓			
R0.38	+/-0.030	.38	✓			
Ø0.392	+0.002/-0.000	.3925	✓			
Ø0.201	+0.005/-0.000	.202	✓			
0.100	+/-0.010	.098	✓			
0.268	+/-0.010	0.268	✓			
R0.260	+/-0.010	.260	✓			
0.080	+/-0.010	.080	✓			
0.300	+/-0.010	.302	✓			

**RELEASED**

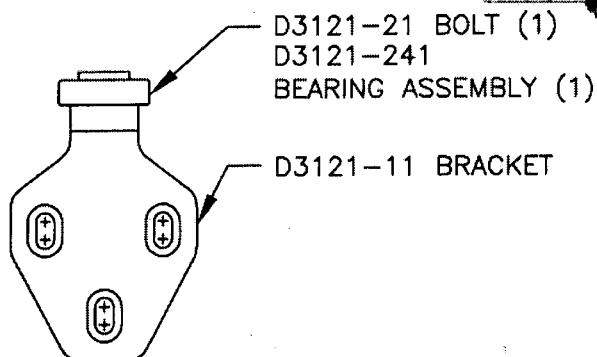
 04.05.06





DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. C SHEET 1 OF 10
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:2
A	02.04.15	NEW ISSUE	
B	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146	
C	04.02.17	ADD CLEARANCE; USE -241 BEARING	
C1	04.03.26	3.97 WAS 4.00; 6.11 WAS 6.14	
C2	04.04.26	0.230 WAS 0.238	

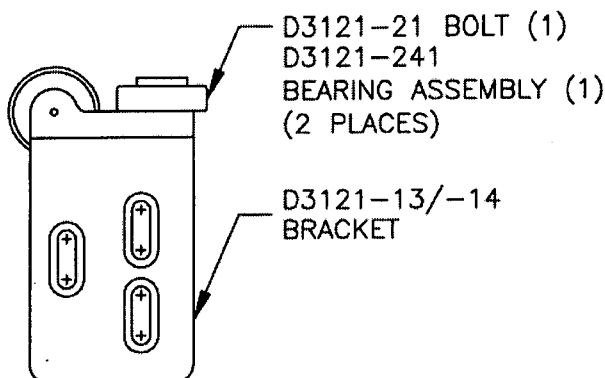
RELEASED  
04.03.01



D3121-21 BOLT (1)  
D3121-241  
BEARING ASSEMBLY (1)

D3121-11 BRACKET

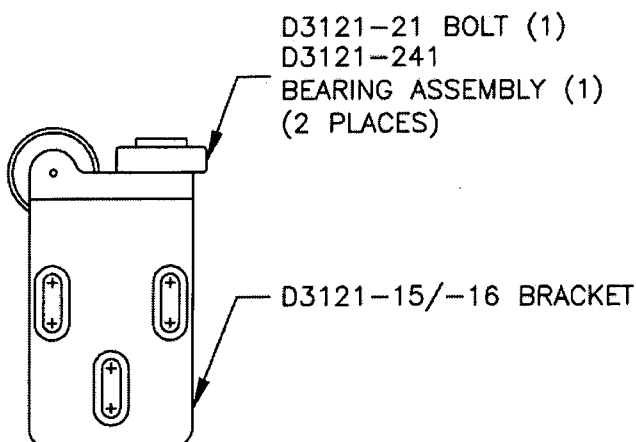
**D3121-041 BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-33)



D3121-21 BOLT (1)  
D3121-241  
BEARING ASSEMBLY (1)  
(2 PLACES)

D3121-13/-14  
BRACKET

**D3121-043 (SHOWN) / D3121-044 (OPPOSITE)  
BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-37/-38)



D3121-21 BOLT (1)  
D3121-241  
BEARING ASSEMBLY (1)  
(2 PLACES)

D3121-15/-16 BRACKET

**D3121-045 (SHOWN) / D3121-046 (OPPOSITE)  
BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-35/-36)

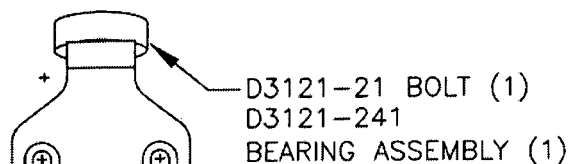
STOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 26038

Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

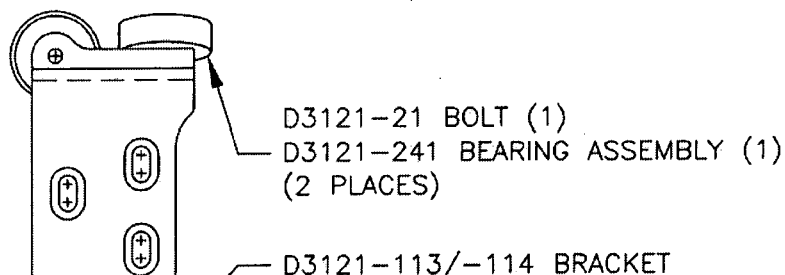


DESIGN #	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. C SHEET 2 OF 10
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:2



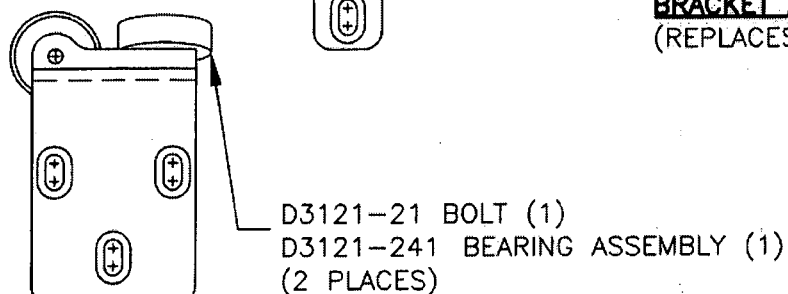
**D3121-141 BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23001-01)

D3121-111 BRACKET



**D3121-143 (SHOWN) / D3121-144 (OPPOSITE)**  
**BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-03/-04)

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 26038



**D3121-145 (SHOWN) / D3121-146 (OPPOSITE)**  
**BRACKET ASSEMBLY**  
(REPLACES PREMIER P/N B30-23000-05/-06)

D3121-115/-116  
BRACKET

**RELEASED**  
04.03.01 #

Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

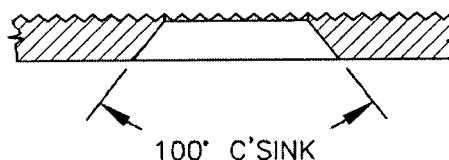
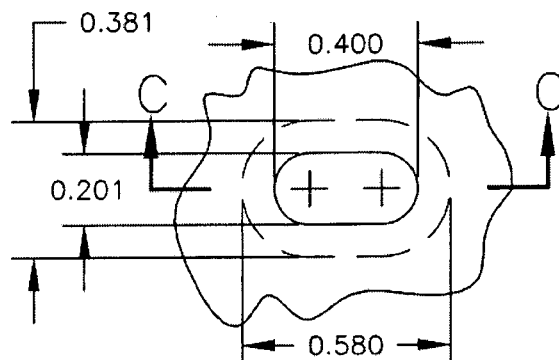




DESIGN #	DRAWN BY P	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. C SHEET 3 OF 10
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:1

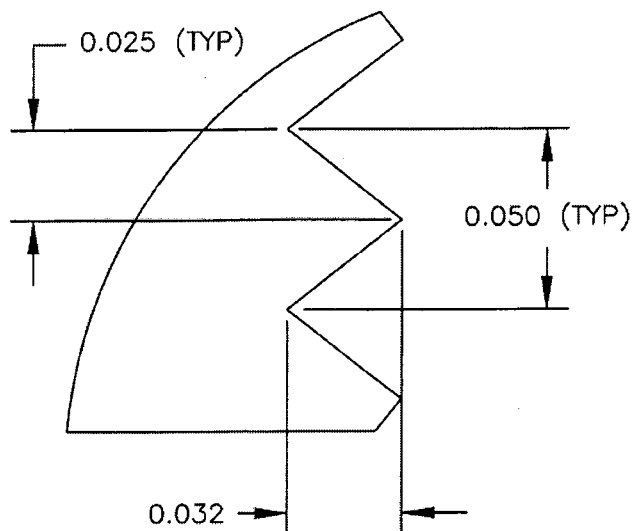
RELEASED  
04.03.01 #

**DETAIL A:**  
**SLOT DETAIL**  
SCALE 2:1  
VIEW ROTATED



**SECTION**  
**C-C**

**DETAIL B:**  
**RIDGE DETAIL**  
PARTIAL SECTION  
SCALE 1:20



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 26038

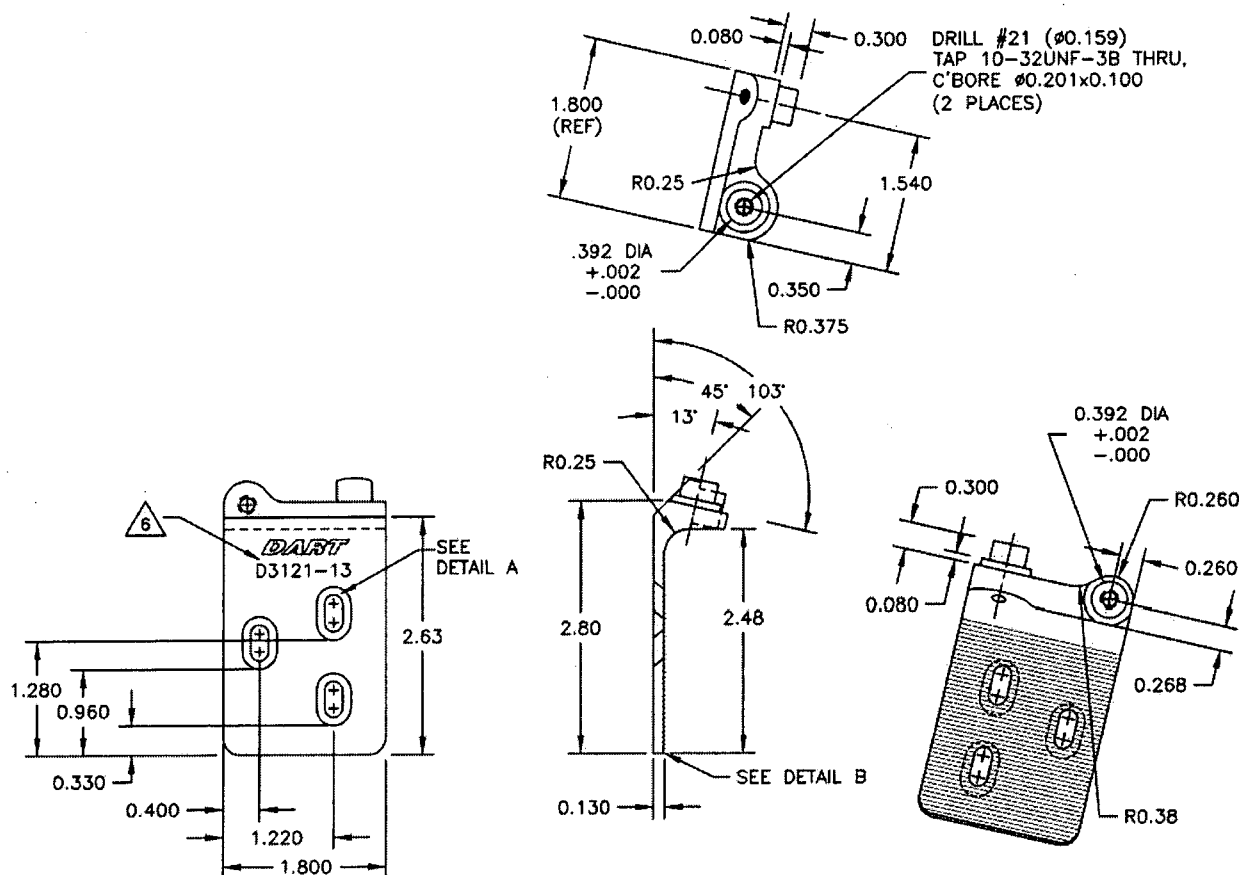
Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.





DESIGN #	DRAWN BY #	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. C SHEET 5 OF 10
DATE 04.02.18		TITLE BRACKET ASSEMBLY	SCALE 1:2



**D3121-13 BRACKET (SHOWN)**  
**D3121-14 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE STRENGTH = 150 ksi  
MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 26038

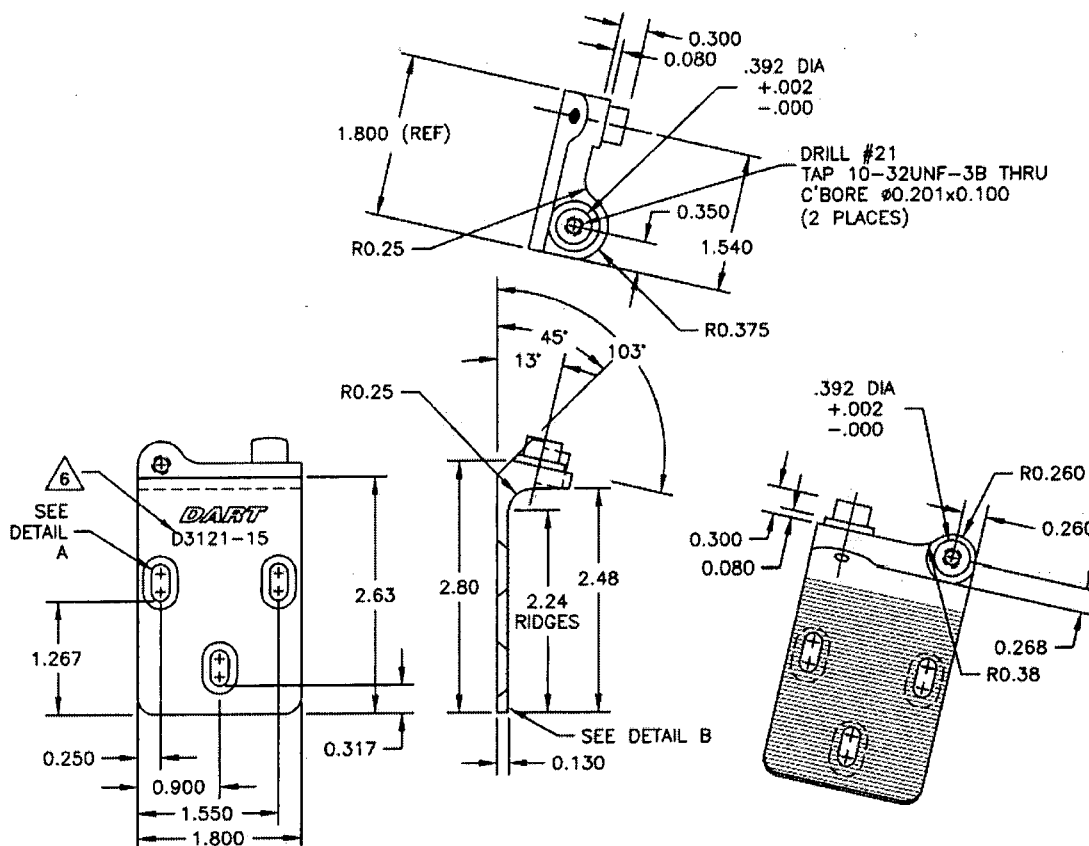
RELEASED  
04-03-01

Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN #	DRAWN BY UP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. C SHEET 6 OF 10
DATE 04.02.18		TITLE BRACKET ASSEMBLY	SCALE 1:2



**D3121-15 BRACKET (SHOWN)**  
**D3121-16 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 26038

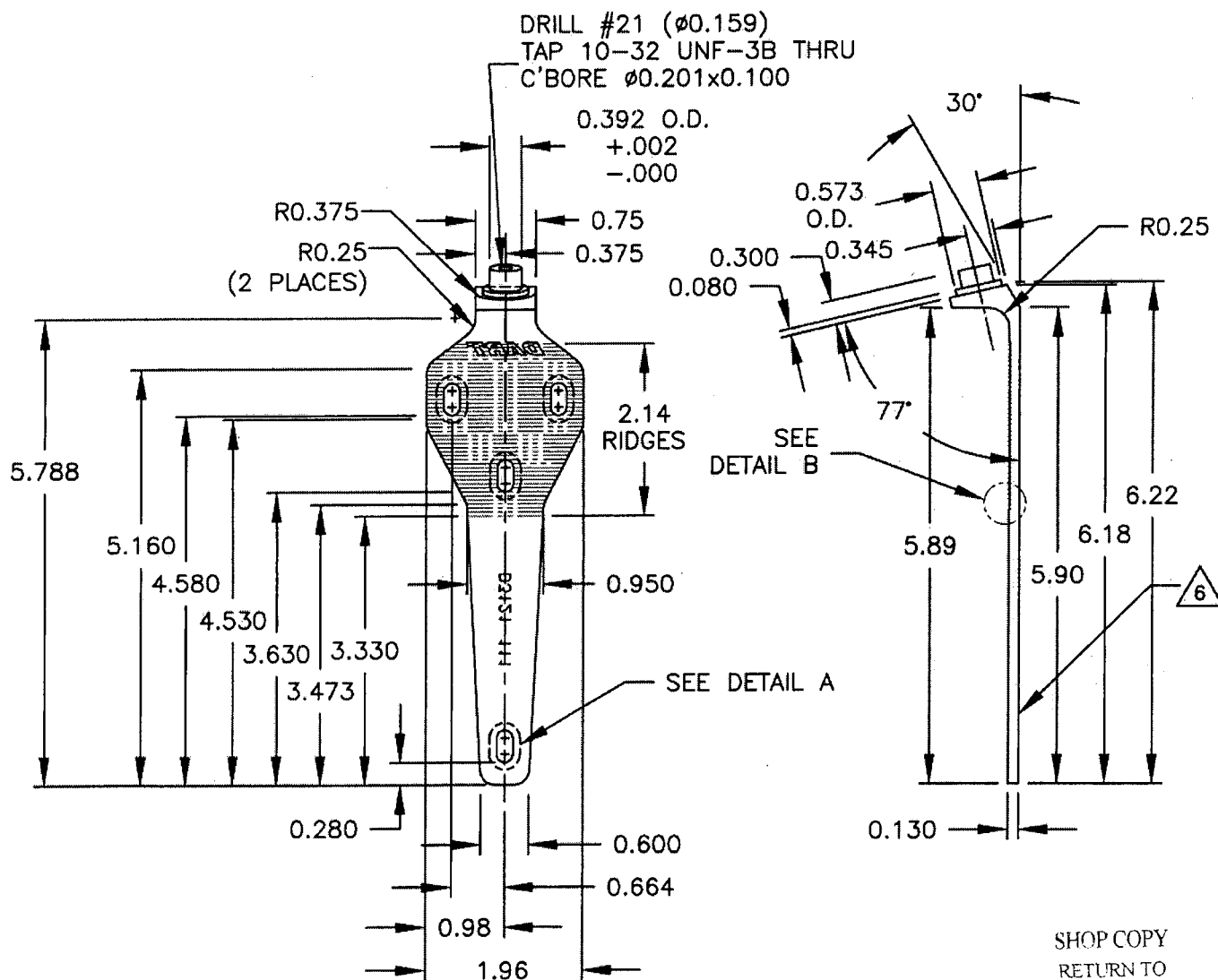
RELEASED  
04.03.01

Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3121	REV. C SHEET 7 OF 10
DATE 04.02.18		TITLE BRACKET ASSEMBLY	SCALE 1:2



#### D3121-111 BRACKET

- 1) REPLACES PREMIER P/N B32-23001-11
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE = 150 ksi  
MIN YIELD TENSILE = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 26038

RELEASED  
04.03.01 *[Signature]*

Copyright © 2002 by DART AEROSPACE LTD

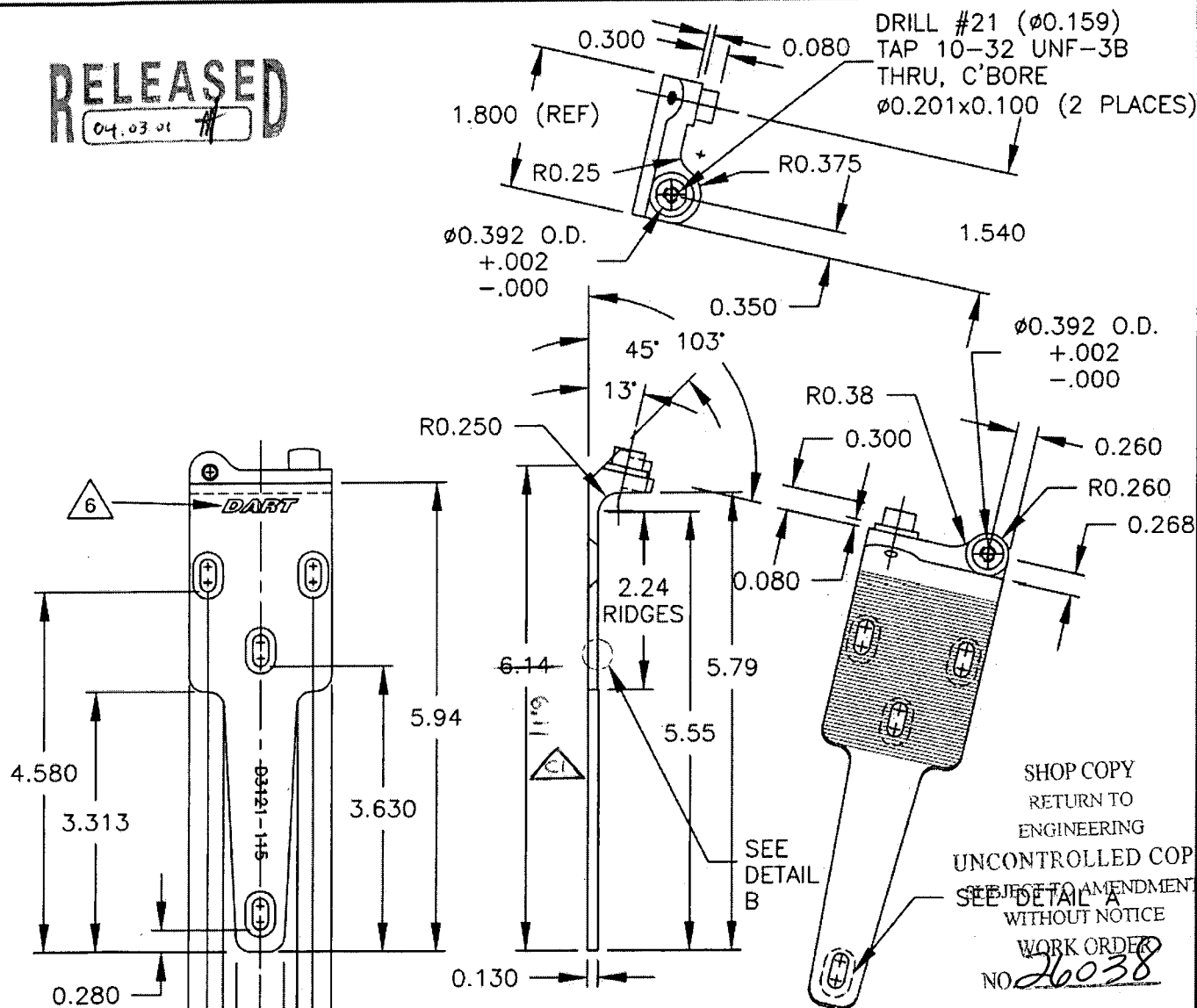
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.





DESIGN #	DRAWN BY #	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. C SHEET 9 OF 10
DATE 04.02.18	TITLE BRACKET ASSEMBLY		SCALE 1:2

RELEASED  
04.03.01 #



**D3121-115 BRACKET (SHOWN)**

**D3121-116 BRACKET (OPPOSITE)**

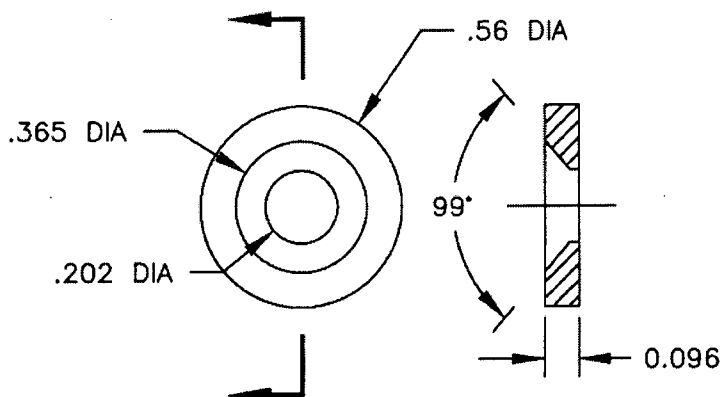
- 1) D3121-115 REPLACES PREMIER P/N B32-23001-15  
D3121-116 REPLACES PREMIER P/N B32-23001-16
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643  
(REF DART SPEC. M17-4-B)  
MIN ULTIMATE TENSILE STRENGTH = 150 ksi  
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

Copyright © 2002 by DART AEROSPACE LTD

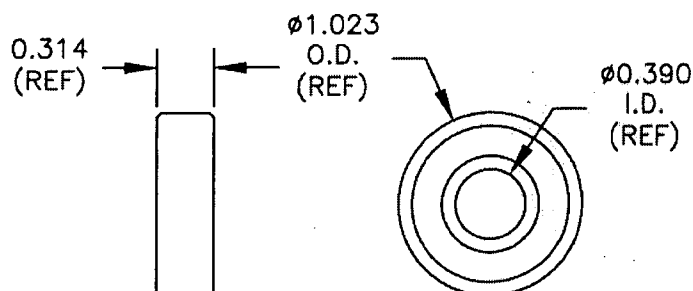
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

**DART**

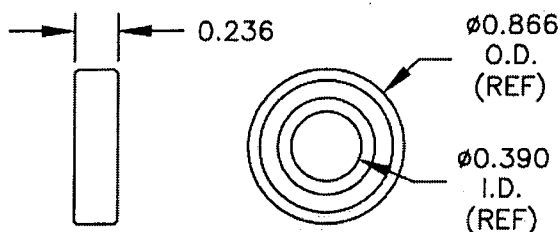
DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3121	REV. C SHEET 10 OF 10
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:1

**D3121-17 WASHER (SCALE 2:1)**

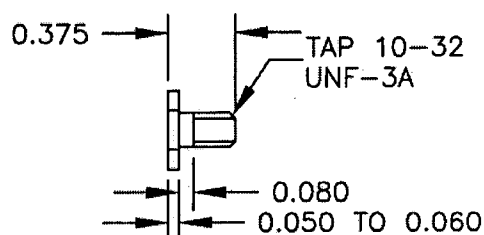
- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-19 BEARING (SCALE 1:1)**

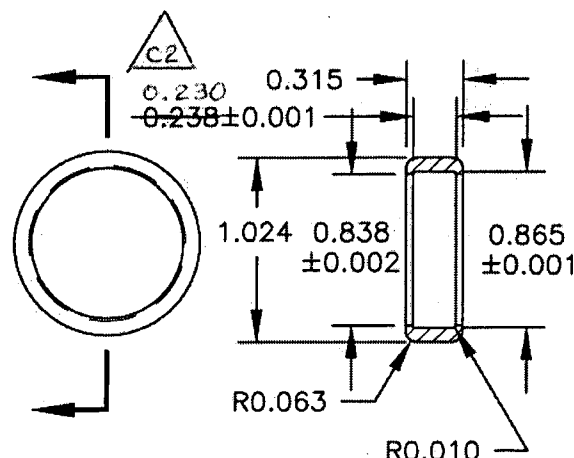
- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-23 BEARING (SCALE 1:1)**

- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z OR KML P/N 6900-2Z
- 2) ALL DIMENSIONS ARE IN INCHES

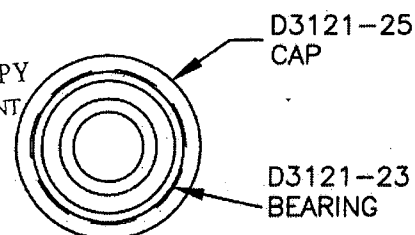
**D3121-21 BOLT (SCALE 1:1)**

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-25 CAP (SCALE 1:1)**

- 1) MATERIAL: DELRIN ROD, Ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. \_\_\_\_\_

**D3121-241 BEARING ASSEMBLY (SCALE 1:1)**

Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.